

*Amendments to the Claims*

1. (Canceled)

2. (Canceled)

3. (Canceled)

4. (Canceled)

5. (Canceled)

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12. (Canceled)

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29. (Canceled)

30. (Canceled)

31. (Canceled)

32. (Canceled)

33. (Canceled)

34. (Currently Amended) A phase locked ~~loop~~ loop, comprising:

reference oscillator means for generating a low phase noise reference frequency  
signal;

a voltage controlled oscillator (VCO) for producing a desired output frequency signal;

a phase detector for comparing the a phase of the low phase noise reference frequency signal to the ~~divided down~~ VCO desired output frequency signal; and

a loop filter for suppressing components of the low phase noise reference frequency ~~components and integrating~~ signal.

35. (Currently Amended) The phase locked loop of claim 34, further comprising a programmable divider for dividing ~~down~~ the VCO desired output frequency signal.

36. (Currently Amended) A frequency ~~synthesizer~~ synthesizer, comprising:  
an oscillator means for generating a substantially stable differential reference signal;

a ~~divide by integer~~ first divide-by-integer counter for dividing the a frequency generated in the oscillator means down to a first known lower value;

a voltage controlled oscillator for generating a desired output frequency in response to an applied substantially DC voltage;

a ~~divide by integer~~ second divide-by-integer counter for dividing the desired output frequency down to a second known lesser value;

a phase detector for comparing the ~~divided down reference frequency at the first known value~~ to the ~~divided down desired~~ output frequency ~~at the second known value~~, whereby an error voltage proportional to the ~~a~~ difference in phase and frequency is produced; and

a low pass filter for converting the error voltage to a DC error voltage.

37. (Currently Amended) A CATV ~~tuner~~ tuner, comprising:

~~a substrate upon which a substantial portion of the tuner circuitry is disposed, and having an RF input connection and an intermediate frequency output connection;~~

~~a reference oscillator means for providing a substantially stable low noise, differential clock signal;~~

~~a phase locked loop using the substantially stable low noise, differential low noise reference oscillator clock signal as a frequency reference to produce a local oscillator signal;~~

~~a filter, coupled to an output of the CATV tuner, to selectively remove spurious frequency components ~~at least one of~~ created in the CATV tuner ~~or~~ ~~and~~ received from an external source, ~~and undesired to be present at the output of the tuner~~; and~~

~~a mixer that utilizes ~~a~~ the local oscillator signal to produce an intermediate frequency that is more easily processed by subsequent circuitry.~~

38. (Currently Amended) A television set top ~~box~~ box, comprising;

a transceiver for receiving programming a program and ordering services a service;

~~an oscillator means to provide for providing~~ a reference frequency that is used in the frequency conversion of a received signal corresponding to the program;

a decryption circuit allowing that allows premium programming the program to be received and descrambled ~~such so that it the program~~ is viewable; and

~~a memory to store information; and~~

a decoder to produce an audio and video signal corresponding to the program.

39. (Currently Amended) A television receiver, comprising:

a CATV tuner circuit for reception of an incoming television signals signal at a radio ~~frequencies frequency~~;

~~an oscillator means to provide for providing~~ a reference signal in the television receiver enabling the frequency conversion of the incoming television ~~circuit signal to be performed~~;

audio signal processing means for processing the incoming television signal ~~such so that it the incoming television signal may be is capable of being heard~~;

video signal processing means for producing processing the incoming television signals signal so that create an image from the incoming television signal is capable of being displayed on a display device; and

a display device that is capable of reproducing an the image that is contained in the transmitted incoming television signal.

40. (Currently Amended) A VCR VCR, comprising:

a CATV tuner circuit for reception of an incoming television signals signal at a radio frequencies frequency;

an oscillator means to provide for providing a reference signal in the a receiver enabling the frequency conversion of the incoming television circuit signal to be performed;

audio signal processing means, disposed within a signal path, for processing the incoming television signal such so that it the incoming television signal may be is capable of being heard;

video signal processing means, disposed within the signal path, for producing processing the incoming television signals signal so that create an image from the incoming television signal is capable of being displayed on a display device;

a memory for storing a instructions;

a recording and play back playback unit that allows the VCR to play and record information stored on a recording media medium; and  
a signal switching unit for connecting the recording and playback unit in and out of the signal path.

41. (Currently Amended) A cable modem modem, comprising:  
a CATV tuner circuit for reception of an incoming television signals signal at a radio frequencies frequency;  
~~an oscillator means to provide for providing~~ a reference signal in ~~the~~ a receiver enabling the frequency conversion of the incoming television ~~circuit~~ signal to be performed;  
an Ethernet transceiver for connecting ~~the~~ a cable television network to ~~the~~ an Ethernet, the cable television network capable of conveying the incoming television signal;  
a diplexer duplex filter that allows full duplex communication over the ~~CATV~~ cable television network;  
a modulator for encoding data for upstream transmission to the cable television network;  
a demodulator for decoding ~~downstream~~ data received from the cable television network.

This listing of claims will replace all prior versions, and listings of claims in the application.